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THE JOINT CHIEFS OF STAFF  
WASHINGTON, D.C. 20301-5000



# JOINT EXERCISE MANUAL (JEM) VOLUME II

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THE JOINT CHIEFS OF STAFF  
WASHINGTON, D C. 20301-5000

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18 FEB 1986

THE JOINT STAFF

MEMORANDUM FOR: See Distribution

Subject: Joint Exercise Manual (JEM) Volume II

1. This revision of Volume II, Joint Exercise Manual (JEM) supersedes all previous versions, which should be destroyed.
2. Volume II is specifically concerned with residual capability assessment (RECA) during exercises. It describes RECA procedures applicable to exercise player personnel, outlines the duties and responsibilities of exercise RECA controllers, and provides instructions and data for computing damage from a simulated nuclear attack. It supplements the information contained in Volume I, which provides overall guidance for exercise planning, implementation, and evaluation.
3. This memorandum, together with its enclosure, may be released into NATO channels with appropriate NATO markings.
4. This memorandum is regraded UNCLASSIFIED when separated from classified enclosure.

*Richard A. Burpee*

RICHARD A. BURPEE  
Lieutenant General, USAF  
Director for Operations

Enclosure  
a/s

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# GLOSSARY

AAC	ALASKAN AIR COMMAND
ABNCP	AIRBORNE COMMAND POST
ACE	ALLIED COMMAND, EUROPE
ACEREPS	ALLIED COMMAND EUROPE REPORTING SYSTEM
ACFK	ALTERNATE COMMAND FACILITY, KUNIA
ACP	ALLIED COMMUNICATION PUBLICATION
ADCOM	AEROSPACE DEFENSE COMMAND
ADMINREP	ADMINISTRATIVE REPORT
ADP	AUTOMATIC DATA PROCESSING
AFCENT	ALLIED FORCES CENTRAL EUROPE
AFEOC	AIR FORCE EMERGENCY OPERATIONS CENTER
AFM	AIR FORCE MANUAL
AFNORTH	ALLIED FORCES NORTHERN EUROPE
AFOC	USAF OPERATIONS CENTER
AFSOUTH	ALLIED FORCES SOUTHERN EUROPE
AGI (S)	INTELLIGENCE GATHERING SHIP(S)
AH/ERS	ALTERNATE HEADQUARTERS/EMERGENCY RELOCATION SITES
AID	AGENCY FOR INTERNATIONAL DEVELOPMENT
AIG	ADDRESS INDICATOR GROUP
AIRSTAT	OFFENSIVE WEAPONS SYSTEMS AND AIR DEFENSE STATUS REPORT
ALIMREP	ALERT IMPLEMENTATION REPORT
AMA	ALTERNATE MILITARY AUTHORITY
AMF	ALLIED COMMAND EUROPE MOBILE FORCE
AMPS	AUTOMATED MESSAGE PROCESSING SYSTEM
ANMCC	ALTERNATE NATIONAL MILITARY COMMAND CENTER
ANWD	ALPHA NUMERIC WALL DISPLAY
AR	ATRES REPORT
ARFCOS	ARMED FORCES COURIER SERVICE
ARRIVEREP	ARRIVED REPORT
ARRS	AEROSPACE RESCUE AND RECOVERY SERVICE
ARTCC (S)	AIR ROUTE TRAFFIC CONTROL CENTER(S)
ASAT	ANTISATELLITE
ASD (A&L)	ASD (ACQUISITION AND LOGISTICS)
ASD (C)	ASD (COMPTROLLER)
ASD (FM&P)	ASD (FORCE MANAGEMENT AND PERSONNEL)
ASD (ISA)	ASD (INTERNATIONAL SECURITY AFFAIRS)
ASD (ISP)	ASD (INTERNATIONAL SECURITY POLICY)
ASD (PA)	ASD (PUBLIC AFFAIRS)
ASMRO	ARMED SERVICES MEDICAL REGULATING OFFICE
ASR	AIRPORT SURVEILLANCE RADAR
ATBAN	ATOMIC TRANSMITTER BASED ANALYSIS
ATBAR	ATOMIC POSTSTRIKE RESULTS REPORT
ATCOM	COMPILATION OF ATINT REPORTS
ATINT	ATOMIC INTENTIONS REPORT
ATGIN	ATOMIC GROUND INTERCEPT REPORT

ATP	ALLIED TACTICAL PUBLICATION
ATPOS	ATOMIC POSTSTRIKE REPORT
ATREQ	ATOMIC SUPPORT REQUEST
ATRES	RESUME OF POSTSTRIKE RESULTS
ATRON	ATOMIC RECONNAISSANCE CREW BROADCAST REPORT
ATSAR	ATOMIC STRIKE APPROVAL REQUEST
AUTODIN	AUTOMATIC DIGITAL NETWORK
AUTOSEVOCOM	AUTOMATIC SECURE VOICE COMMUNICATION
AUTOVON	AUTOMATIC VOICE NETWORK
AVAILAIR	AVAILABILITY AIRLIFT REPORT
BASEDEV	BASE DEVELOPMENT REPORT
BASEREP	BASE OPERATIONAL STATUS REPORT
BCD	BINARY CODED DECIMAL
BDP	BASE DEVELOPMENT PLAN
BISCLANT	BAY OF BISCAY ATLANTIC AREA
BMEWS	BALLISTIC MISSILE EARLY WARNING SYSTEM
BPS	BITS PER SECOND
C3	COMMAND, CONTROL, AND COMMUNICATIONS
C3CM	C3 COUNTERMEASURES
C3S	DIRECTOR, C3S (COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS), OJCS
C-E	COMMUNICATIONS-ELECTRONICS
C&O	CONCEPT AND OBJECTIVES
CAB	CIVIL AERONAUTICS BOARD
CAC	CURRENT ACTIONS CENTER
CANLANT	CANADIAN ATLANTIC
CAO	COORDINATION OF ATOMIC OPERATIONS
CAO SOP	STANDING OPERATING PROCEDURES FOR THE COORDINATION OF ATOMIC OPERATIONS
CARDA	CONUS ABN RECONNAISSANCE FOR DAMAGE ASSESSMENT
CARIBSEAFRON	CARIBBEAN SEA FRONTIER
CAT	CRISIS ACTION TEAM
CBR	CHEMICAL, BIOLOGICAL, AND RADIOLOGICAL
CCC	CARDA COORDINATION CENTER
CCG	COMMANDANT OF THE COAST GUARD
CCGD	COMMANDER, COAST GUARD DISTRICT
CDRUSASG	COMMANDER, US ARMY SUPPORT GROUP
CEF	CIVIL ENGINEERING FILE
CEL	COMBINED EVENTS LIST
CENTLANT	CENTRAL SUBAREA OF EASTERN ATLANTIC AREA
CESP	CIVIL ENGINEERING SUPPORT PLAN
CGF	CENTRAL GROUP OF FORCES
CGS	CONUS GROUND STATION
CHOP	TRANSFER OF OPERATIONAL CONTROL
CIA	CENTRAL INTELLIGENCE AGENCY
CIC	CONTENT INDICATOR CODE
CIMEX	CIVIL MILITARY EXERCISE
CINCAD	COMMANDER IN CHIEF, AEROSPACE DEFENSE COMMAND
CINCHAN	COMMANDER IN CHIEF, CHANNEL
CINCLANTFLT	COMMANDER IN CHIEF, ATLANTIC FLEET



CINCMAC  
CINCNORAD

CINCPACAF  
CINCPACFLT  
CINCSAC  
CINCUSNAVEUR  
CIVREP  
CJCS  
CMC  
CNO  
COC  
COCR  
COMAMF  
COMFAIRMED  
COMICEDEFOR  
COMIDEASTFOR  
COMINT  
COMJARCC

COMNAVFORCARIB  
COMOCEANSUBAREA  
COMSEC  
COMSPOT  
COMSTAT  
COMTHIRDFLT  
COMUKADR  
COMUSJAPAN  
COMUSJTF  
COMUSKOREA  
CONPLAN  
CONREP  
CONSA  
CONUS  
CONVORD  
COOP  
COPDAF

COSIN  
CP  
CPX  
CRAF  
CRAFREP  
CRITICOMM  
CRT  
CSA  
CSAF  
CSOD  
CSP

COMMANDER IN CHIEF, MILITARY AIRLIFT COMMAND  
COMMANDER IN CHIEF, NORTH AMERICAN AIR  
DEFENSE COMMAND

COMMANDER IN CHIEF, PACIFIC AIR FORCES  
COMMANDER IN CHIEF, PACIFIC FLEET  
COMMANDER IN CHIEF, STRATEGIC AIR COMMAND  
COMMANDER IN CHIEF, US NAVAL FORCES EUROPE  
CIVIL SITUATION REPORT

CHAIRMAN, JOINT CHIEFS OF STAFF  
COMMANDANT OF THE MARINE CORPS  
CHIEF OF NAVAL OPERATIONS  
COMBAT OPERATIONS CENTER  
COMMAND OPERATIONAL CHANGE REPORT  
COMMANDER, ACE MOBILE FORCE  
COMMANDER, FLEET AIR MEDITERRANEAN  
COMMANDER, ICELAND DEFENSE FORCE  
COMMANDER, MIDDLE EAST FORCE  
COMMUNICATIONS INTELLIGENCE  
COMMANDER, JOINT AIR RECONNAISSANCE  
COORDINATION CENTER

COMMANDER, NAVAL FORCES CARIBBEAN AREA  
COMMANDER, OCEAN SUB AREA, US ATLANTIC FLEET  
COMMUNICATIONS SECURITY  
COMMUNICATIONS SPOT REPORT  
COMMUNICATIONS STATUS REPORT  
COMMANDER, THIRD FLEET  
COMMANDER, UNITED KINGDOM AIR DEFENSE REGION  
COMMANDER, US FORCES JAPAN  
COMMANDER, US JOINT TASK FORCE  
COMMANDER, US FORCES, KOREA

CONCEPT PLAN  
CONTINGENCY CONSTRUCTION REPORT  
CONSULAR SHIPPING ADVISORS  
CONTINENTAL UNITED STATES  
CONVOY ORDER

CONTINUITY OF OPERATIONS PLAN  
CONTINUITY OF OPERATIONS PLAN,  
DEPT THE AIR FORCE

CONTROL STAFF INSTRUCTION  
COMMAND POST

COMMAND POST EXERCISE  
CIVIL RESERVE AIR FLEET  
CIVIL RESERVE AIR FLEET SUMMARY REPORT  
CRITICAL COMMUNICATIONS  
CATHODE RAY TUBE

CHIEF OF STAFF, US ARMY  
CHIEF OF STAFF, US AIR FORCE  
COMMAND SYSTEMS OPERATIONS DIVISION, OJCS  
CRISIS STAFFING PROCEDURES

CV  
CVN  
CVW  
CW  
DAO  
DASD (A)

DCA  
DCAEUR  
DCAPAC  
DCAS  
DCS  
DCSC  
DDC  
DDO  
DDO (NMCC)

DEFCON  
DEPOPSDEP  
DEPSECDEF  
DESC  
DESCHA  
DESCHORD  
DFSC  
DG  
DGZ  
DHHS  
DIA  
DICO  
DIRM

DISR  
DISUM  
DIVERTORD  
DJS  
DJSM  
DLA  
DMA  
DMSP  
DMZ  
DNA  
DOC  
DOD  
DOE  
DOS  
DOT  
DPC  
DSAA  
DSCS  
DSEB

AIRCRAFT CARRIER  
NUCLEAR AIRCRAFT CARRIER  
CARRIER AIR WING  
CHEMICAL WARFARE  
DEFENSE ATTACHE OFFICE  
DEPUTY ASSISTANT SECRETARY OF DEFENSE  
(ADMINISTRATION)  
DEFENSE COMMUNICATIONS AGENCY  
DEFENSE COMMUNICATIONS AGENCY, EUROPE  
DEFENSE COMMUNICATIONS AGENCY, PACIFIC  
DEFENSE CONTRACT ADMINISTRATIVE SERVICE  
DEFENSE COMMUNICATIONS SYSTEM  
DEFENSE CONSTRUCTION SUPPLY CENTER  
DATA DISTRIBUTION CENTER  
DEPUTY DIRECTOR FOR OPERATIONS  
DEPUTY DIRECTOR FOR OPERATIONS (NATIONAL  
MILITARY COMMAND CENTER)  
DEFENSE READINESS CONDITION  
DEPUTY OPERATIONS DEPUTY  
DEPUTY SECRETARY OF DEFENSE  
DEFENSE ELECTRONICS SUPPLY CENTER  
DESTINATION CHANGE  
DESTINATION CHANGE ORDER  
DEFENSE FUEL SUPPLY CENTER  
DEFENSE GUIDANCE  
DESIRED GROUND ZERO  
DEPARTMENT OF HEALTH & HUMAN SERVICES  
DEFENSE INTELLIGENCE AGENCY  
DATA INFORMATION COORDINATION OFFICE  
DIRECTOR FOR INFORMATION AND RESOURCE  
MANAGEMENT, OJCS  
DAILY INDICATIONS STATUS REPORT  
DAILY INTELLIGENCE SUMMARY  
DIVERSION ORDER  
DIRECTOR, JOINT STAFF  
DIRECTOR, JOINT STAFF MEMORANDUM  
DEFENSE LOGISTICS AGENCY  
DEFENSE MAPPING AGENCY  
DEFENSE METEOROLOGICAL SATELLITE PROGRAM  
DEMILITARIZED ZONE  
DEFENSE NUCLEAR AGENCY  
DEPARTMENT OF COMMERCE  
DEPARTMENT OF DEFENSE  
DEPARTMENT OF ENERGY  
DEPARTMENT OF STATE  
DEPARTMENT OF TRANSPORTATION  
DEFENSE PLANNING COMMITTEE, NATO  
DEFENSE SECURITY ASSISTANCE AGENCY  
DEFENSE SATELLITE COMMUNICATIONS SYSTEM  
DEFENSE SHIPPING EXECUTIVE BOARD

DSP	DEFENSE SUPPORT PROGRAM
DSSCS	DEFENSE SPECIAL SECURITY COMMUNICATIONS SYSTEM
DSTP	DIRECTOR OF STRATEGIC TARGET PLANNING
DTG	DATE-TIME GROUP
ERT	EXECUTION REFERENCE TIME
EA	EMERGENCY ACTION
EAM	EMERGENCY ACTION MESSAGE
EAP	EMERGENCY ACTION PROCEDURES
EAUX	EASTERN AUXILIARY
EBCDIC	EXTENDED BINARY CODED DECIMAL INTERCHANGE CODE
ECCM	ELECTRONIC COUNTER-COUNTERMEASURES
ECG	EMERGENCY COORDINATION GROUP
ECM	ELECTRONIC COUNTERMEASURES
ECR	EMERGENCY CONFERENCE ROOM (NMCC)
E&DCP	EVALUATION AND DATA COLLECTION PLAN
EEFI	ESSENTIAL ELEMENTS OF FRIENDLY INFORMATION
EFTO	ENCRYPTED FOR TRANSMISSION ONLY
EMAS	EXERCISE MESSAGE ANALYSIS SYSTEM
EMATS	EMERGENCY MSG AUTOMATIC TRANSMISSION SYSTEM
EMCON	EMISSION CONTROL
EMERGCON	EMERGENCY CONDITION
ENDEX	END OF EXERCISE
EOB	ELECTRONIC ORDER OF BATTLE
EOC	EMERGENCY OPERATING CENTER
EOP	EMERGENCY OPERATING PROCEDURES
EPG	EXERCISE PLANNING GUIDANCE
ER	EVALUATION REPORT
ERCS	EMERGENCY ROCKET COMMUNICATIONS SYSTEM
ESCAT	EMERGENCY SECURITY CONTROL OF AIR TRAFFIC
ESM	ELECTRONIC WARFARE SUPPORT MEASURES
ETA	ESTIMATED TIME OF ARRIVAL
EUR	EUROPE
EW	ELECTRONIC WARFARE
EXCRIT	EXERCISE CRITIQUE
EXPLAN	EXERCISE PLAN
FAA	FEDERAL AVIATION ADMINISTRATION
PCDNA	FIELD COMMAND, DNA
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
FLT	FLEET
FMF	FLEET MARINE FORCE
FORGEN	FORCE GENERATION REPORT
FRD	FORMERLY RESTRICTED DATA
FRN	FORCE REQUIREMENT NUMBER
PTS	FILE TRANSFER SERVICE
PTX	FIELD TRAINING EXERCISE
GDR	GERMAN DEMOCRATIC REPUBLIC
GENREL	GENERAL RELEASE
GMT	GREENWICH MEAN TIME

GSA	GENERAL SERVICES ADMINISTRATION
GWS	GENERAL WAR SUBSYSTEM
HAVREP	HAVEN REPORT
HF	HIGH FREQUENCY
HSD	HIGH SPEED DATA
HUMINT	HUMAN SOURCE INTELLIGENCE
IAW	IN ACCORDANCE WITH
IBERLANT	IBERIAN ATLANTIC AREA
ICBM	INTERCONTINENTAL BALLISTIC MISSILE
IEMATS	IMPROVED EMERGENCY MESSAGE AUTOMATIC TRANSMISSION SYSTEM
IFF	IDENTIFICATION, FRIEND OR FOE
ILS	INSTRUMENT LANDING SYSTEM
INTREP	INTELLIGENCE REPORT
INTSIT	INTELLIGENCE SITUATION REPORT
IRS	INFORMATION REPORTING SYSTEM
J-1	DIRECTOR, J-1 (PERSONNEL), OJCS
J-3	DIRECTOR, J-3 (OPERATIONS), OJCS
J-4	DIRECTOR, J-4 (LOGISTICS), OJCS
J-5	DIRECTOR, J-5 (PLANS & POLICY), OJCS
JABUP	JOINT AIR BASE UTILIZATION PLAN
JAD	JOINT ANALYSIS DIRECTORATE, OJCS
JADREP	JOINT RESOURCE ASSESSMENT DATA BASE REPORT
JAI	JOINT ADMINISTRATIVE INSTRUCTION
JANAP	JOINT ARMY, NAVY, AIR FORCE PUBLICATION
JCC	JOINT COORDINATION CENTER
JCS	JOINT CHIEFS OF STAFF
JCSAN	JOINT CHIEFS OF STAFF ALERTING NETWORK
JCSMC	JOINT CHIEFS OF STAFF MESSAGE CENTER
JDA	JOINT DEPLOYMENT AGENCY
JDS	JOINT DEPLOYMENT SYSTEM
JDSSC	JOINT DATA SYSTEMS SUPPORT CENTER
JECC	JOINT EXERCISE CONTROL CENTER
JECCG	JOINT EXERCISE CONTROL GROUP
JECS	JOINT EXERCISE CONTROL SYSTEM
JED	JOINT EXERCISE DIVISION, OJCS
JEEP	JOINT EMERGENCY EVACUATION PLAN
JEM	JOINT EXERCISE MANUAL
JMPAB	JOINT MATERIEL PRIORITIES AND ALLOCATION BOARD
JMRO	JOINT MEDICAL REGULATING OFFICE
JNPE	JOINT NUCLEAR PLANNING ELEMENT
JOC	JOINT OPERATIONS CENTER
JOPEP	JOINT OPERATION PLANNING AND EXECUTION SYSTEM
JOPS	JOINT OPERATION PLANNING SYSTEM
JOPSREP	JOPS REPORTING SYSTEM
JRC	JOINT RECONNAISSANCE CENTER
JRCC	JOINT RESCUE COORDINATION CENTER
JRS	JOINT REPORTING STRUCTURE
JSCO	JOINT STAFF COMMUNICATIONS OFFICE

JSCP  
JSOA  
JSTPS  
JTB  
JTF  
LANT  
LAUNCH  
LERTCON  
LF  
LOC  
LOGSITREP  
LORAN  
LRA  
LRC  
LSD  
MAAG  
MAB  
MAC  
MAF  
MAO  
MARAD  
MARCONREP  
MARG  
MAU  
MAW  
MC&G  
MDWT  
MEECN

MERCASREP  
MERCO  
MEREPS

MERSHIPS  
MFL  
MGS  
MIJI

MILINREP  
MILSTAMP

MILSTRAP

MILSTRIP

MJCS

MNC  
MOBREP  
MOD  
MOP  
MOVEREP

JOINT STRATEGIC CAPABILITIES PLAN  
JOINT SPECIAL OPERATIONS AGENCY  
JOINT STRATEGIC TARGET PLANNING STAFF  
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MOVEMENT REPORT

MSC  
MSEL  
MTMC  
MUNIREP

MW  
MWDS  
MWO  
NAC  
NACSIM  
NASA  
NATO  
NAVCOMSTA  
NBC  
NBC-1  
NBC-3  
NCA  
NCOC  
NCS  
NCSO  
NCSORG  
ND  
NDERS

NDMS  
NDRF  
NEACP  
NFARS  
NIPIR

NLT  
NM  
NMCC  
NMCS  
NMIC  
NOAA

NOMS  
NONARRIVEDREP  
NORAD  
NORLANT  
NPES  
NRL  
NSA  
NSA/CSS

NSC  
NSO  
NSP

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MILITARY TRAFFIC MANAGEMENT COMMAND  
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MISSILE WARNING DETECTION SYSTEM  
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NOT LATER THAN  
NAUTICAL MILE  
NATIONAL MILITARY COMMAND CENTER  
NATIONAL MILITARY COMMAND SYSTEM  
NATIONAL MILITARY INTELLIGENCE CENTER  
NATIONAL OCEANIC AND ATMOSPHERIC  
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NUWEP RECONNAISSANCE LIST  
NATIONAL SHIPPING AUTHORITY  
NATIONAL SECURITY AGENCY/CENTRAL  
SECURITY SERVICE  
NATIONAL SECURITY COUNCIL  
NON-SIOP OPTION  
NUCLEAR STRIKE PLAN

NTB/TDI

NUCAP  
NUCSTAT  
NUCWA  
NUDET  
NUDIS  
NUREP  
NUWEP  
NWP  
NWSB  
OB  
OCA  
OCR-EMERG

OCSA/ADV

ODCR  
OET  
OGS  
OJCS  
ONPG  
OPCON  
OPG  
OPLAN  
OPNAV  
OPORD  
OPREP  
OPSCOM  
OPSDEPS  
OPSEC  
OPSUM  
OSD  
OSIS  
OSS  
OT  
OTC  
OTH  
PAC  
PACCS  
PACFLT  
PAL  
PAR  
PAS  
PEADS  
PERSREP  
PIM  
PLA  
POE  
POL  
POLCAP

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PRECISION APPROACH RADAR  
PRIMARY ALERTING SYSTEM  
PRESIDENTIAL EMERGENCY ACTION DOCUMENTS  
PERSONNEL REPORT  
POSITION OF INTENDED MOVEMENT  
PEOPLES LIBERATION ARMY  
PORT OF EMBARKATION  
PETROLEUM, OIL, AND LUBRICANTS  
POL CAPABILITIES REPORT

POMCUS	PRE-POSITIONED OVERSEAS MATERIEL, CONFIGURED TO UNIT SETS
PORTSUM	PORT SUMMARY
PRC	PEOPLES REPUBLIC OF CHINA
PSYOP	PSYCHOLOGICAL OPERATIONS
PSYWAR	PSYCHOLOGICAL WARFARE
PW	PRISONER OF WAR
PWRS	PRE-POSITIONED WAR RESERVE STOCK
RAD	RADIATION
RAP	REMEDIAL ACTION PROJECT
RCA	RIOT CONTROL AGENTS
RCC	RECONNAISSANCE COORDINATION CENTER
RCC	REGION CONTROL CENTERS
RDD	REQUIRED DELIVERY DATE
READYREP	OPERATIONAL READINESS REPORT
RECA	RESIDUAL CAPABILITY ASSESSMENT
RECAT	RESIDUAL CAPABILITY ASSESSMENT TEAM
RECLAU	RECONNAISSANCE LAUNCH REPORT
RECON	RECONNAISSANCE
RECONT	RECONNAISSANCE INTENTIONS REPORT
RECREP	RECONNAISSANCE REPORT
REDREC	REDIRECTION AND RECONSTITUTION
REPOL	PETROLEUM DAMAGE DEFICIENCY REPORT
REPTOFS	REPORTING OFFICER
RF	RADIO FREQUENCY
RISOP	RED INTEGRATED STRATEGIC OFFENSIVE PLAN
RMS	RESOURCE MONITORING SUBSYSTEM
RNO	REGIONAL NUCLEAR OPTION
ROE	RULES OF ENGAGEMENT
ROK	REPUBLIC OF KOREA
RRM	RED RESOURCE MONITOR
SAA	SINGLE AGENCY ACTION
SAC	STRATEGIC AIR COMMAND
SACCS	SAC AUTOMATIC COMMAND AND CONTROL SYSTEM
SACEUR	SUPREME ALLIED COMMANDER EUROPE
SACLAN	SUPREME ALLIED COMMANDER ATLANTIC
SAILEDREP	SAILED REPORT
SAILORD	SAILING ORDER
SANGUINE	EXTREMELY LOW FREQUENCY COMMUNICATIONS
SAO	SELECTED ATTACK OPTION
SAR	SEARCH AND RESCUE
SCATANA	SECURITY CONTROL OF AIR TRAFFIC AND NAVIGATIONAL AIDS
SCI	SENSITIVE COMPARTMENTED INFORMATION
SECDEF	SECRETARY OF DEFENSE
SECSTATE	SECRETARY OF STATE
SELREL	SELECTIVE RELEASE
SERER	SURVIVAL, EVASION, RESISTANCE, ESCAPE AND RECOVERY



SHAPE  
 SHIPSUM  
 SI  
 SIDA  
 SIDAC  
 SIGINT  
 SIOP  
 SIOP-ESI  
 SITREP  
 SJCS  
 SLBM  
 SLBM D&W  
 SM  
 SOA  
 SOF  
 SOP  
 SPARTAN  
 SPECAT  
 SPIREP  
 SRC  
 SRP  
 SRTS  
 SSAN  
 SSBN  
 SSN  
 SSO  
 STARTEX  
 STATE  
 STRIKOPREP  
 STRIKSUM  
 SUBOPREP  
 SUPINTREP  
 TACAMO  
 TACAN  
 TDD  
 TDI  
 TDY  
 TFW  
 TOA  
 TPFDD  
 TRA  
 TW/AA  
 UCP  
 UDS  
 UHF  
 UK  
 UNAAF  
 UNITREP  
 URGORBAT

SUPREME HEADQUARTERS ALLIED POWERS  
 EUROPE  
 SHIPPING SUMMARY  
 SPECIAL INTELLIGENCE  
 SINGLE INTEGRATED DATA BASE  
 SINGLE INTEGRATED DAMAGE ANALYSIS CAPABILITY  
 SIGNALS INTELLIGENCE  
 SINGLE INTEGRATED OPERATIONAL PLAN  
 SIOP - EXTREMELY SENSITIVE INFORMATION  
 COMMANDER'S SITUATION REPORT  
 SECRETARY, JOINT CHIEFS OF STAFF  
 SEA-LAUNCHED BALLISTIC MISSILE  
 SLBM DETECTION AND WARNING  
 SECRETARY, JCS MEMORANDUM  
 STATUS OF ACTIONS  
 SPECIAL OPERATIONS FORCE  
 STANDING OPERATING PROCEDURES  
 SPECIAL ACTIVITY REPORT FOR THREAT ANALYSIS  
 SPECIAL CATEGORY  
 SPECIAL INTELLIGENCE REPORT  
 SPACE RESPONSE CELL  
 SIOP RECONNAISSANCE PLAN  
 STRATEGIC ROCKET TROOPS  
 SOCIAL SECURITY ACCOUNT NUMBER  
 BALLISTIC MISSILE NUCLEAR SUBMARINE  
 SOCIAL SECURITY NUMBER  
 SPECIAL SECURITY OFFICE  
 START OF EXERCISE  
 DEPARTMENT OF STATE  
 STRIKE OPERATION REPORT  
 STRIKE SUMMARY REPORT  
 SUBMARINE OPERATION REPORT  
 SUPPLEMENTARY INTELLIGENCE REPORT  
 TAKE CHARGE AND MOVE OUT  
 TACTICAL CONTROL AND NAVIGATION SYSTEM  
 TARGET DGZ DESIGNATOR  
 TARGET DATA INVENTORY  
 TEMPORARY DUTY  
 TACTICAL FIGHTER WING  
 TRANSPORTATION OPERATING AGENCY  
 TIME-PHASED FORCE AND DEPLOYMENT DATA  
 TEMPORARY RESTRICTED AREA  
 TACTICAL WARNING/ATTACK ASSESSMENT  
 UNIFIED COMMAND PLAN  
 USER DISPLAY SEGMENT  
 ULTRA HIGH FREQUENCY  
 UNITED KINGDOM  
 UNIFIED ACTION ARMED FORCES  
 UNIT REPORTING SYSTEM  
 URGENT ORDER OF BATTLE REPORT

URGWORBAT	URGENT ACE WAR ORDER OF BATTLE
USA	UNITED STATES ARMY
USAF	UNITED STATES AIR FORCE
USBRO	US BASE REQUIREMENTS OVERSEAS
USCG	US COAST GUARD
USCENTCOM	US CENTRAL COMMAND
USCINCCENT	COMMANDER IN CHIEF, US CENTRAL COMMAND
USCINCEUR	US COMMANDER IN CHIEF, EUROPE
USCINCLANT	COMMANDER IN CHIEF, US ATLANTIC COMMAND
USCINCPAC	COMMANDER IN CHIEF, US PACIFIC COMMAND
USCINCRD	COMMANDER IN CHIEF, US READINESS COMMAND
USCINCSO	COMMANDER IN CHIEF, US SOUTHERN COMMAND
USCINCSpace	COMMANDER IN CHIEF, US SPACE COMMAND
USCOMSOLANT	US COMMANDER, SOUTH ATLANTIC FORCE
USDELMC	UNITED STATES DELEGATE TO MILITARY COMMITTEE, NATO
USEUCOM	US EUROPEAN COMMAND
USG	UNITED STATES GOVERNMENT
USLANCOM	US ATLANTIC COMMAND
USMC	UNITED STATES MARINE CORPS
USN	UNITED STATES NAVY
USNMR	UNITED STATES NATIONAL MILITARY REPRESENTATIVE (NATO)
USPACOM	US PACIFIC COMMAND
USREDCOM	US READINESS COMMAND
USSOUTHCOM	US SOUTHERN COMMAND
USSPACECOM	US SPACE COMMAND
UW	UNCONVENTIONAL WARFARE
VHF	VERY HIGH FREQUENCY
VLF	VERY LOW FREQUENCY
VOCOM	VOICE COMMUNICATIONS
VOR	VHF OMNI RANGE
VP	PATROL SQUADRON
VQ	FLEET AIR RECONNAISSANCE SQUADRON
VRF	VIDEO RECORDING FACILITY
WAUX	WESTERN AUXILIARY
WCP	WING COMMAND POST
WD	WHITE DOT
WEPREP	NUCLEAR WEAPONS REPORT
WEPREQ	REQUEST FOR JCS NUCLEAR RESERVE WEAPONS
WESTLANT	WESTERN ATLANTIC
WH	WHITE HOUSE
WHCA	WHITE HOUSE COMMUNICATIONS AGENCY
WIN	WWMCCS INTERCOMPUTER NETWORK
WINTEX	WINTER EXERCISE
WWDMS	WORLDWIDE DATA MANAGEMENT SYSTEM
WWMCCS	WORLDWIDE MILITARY COMMAND AND CONTROL SYSTEM
WWMP	WORLDWIDE MESSAGE PROCESSOR
Z	ZULU TIME

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## RESIDUAL CAPABILITY ASSESSMENT (U)

1. (U) General. The purpose of the volume is to provide exercise controller personnel with a set of standardized procedures to create an exercise nuclear environment for player personnel. This volume is intended for use only during exercise situations. Specific topics addressed in this volume include:

- a. (U) Residual capability assessment (RECA) procedures applicable to exercise player personnel.
- b. (U) The role and function of controller personnel in the RECA process.
- c. (U) RECA scripting procedures for nuclear direct effects and fallout radiation.

## 2. (U) Background

- a. (U) Reference f describes the requirements of the NCA for transattack/postattack residual capability information, describes the overall RECA system to support these requirements, and identifies the RECA responsibilities of the commanders of unified and specified commands, Services, and DOD agencies. Reference f also addresses the civil damage assessment functions required to support the RECA process. JCS Pub 6, NORADM 55-19 (Volume VIII), and Air Force OPLAN 2-84 address the exercise reporting procedures that will be implemented following a nuclear attack to support the RECA process.
- b. (U) The purpose of RECA is to assess resources to determine the residual military capabilities following a nuclear attack on the United States.
- c. (U) The RECA process is supported by information derived from Nuclear Detonation (NUDET), CONUS Airborne Reconnaissance for Damage Assessment (CARDA), and Automated Data Bases reports. These reports provide a means for estimating the effects of a nuclear attack on US resources. These initial estimates are refined by information derived from the Joint Resource Assessment Data Base Report (JADREP). The JADREP card format is used to report selected information concerning the observed status of US military installations or facilities sustaining a degradation in capability due to one or more of the causes of damage identified in the JADREP reporting procedures in reference d.

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3. (U) RECA Procedures for Player Personnel

e. (U) General

(1) (U) RECA play will evolve based on the nuclear laydown scenario developed for the exercise. Controller personnel will be provided a RECA scenario based on the nuclear laydown to promote active participation on the part of RECA players at all levels.

(2) (U) The scripted inputs that make up the RECA scenario are designed to ensure consistency at all levels of RECA play.

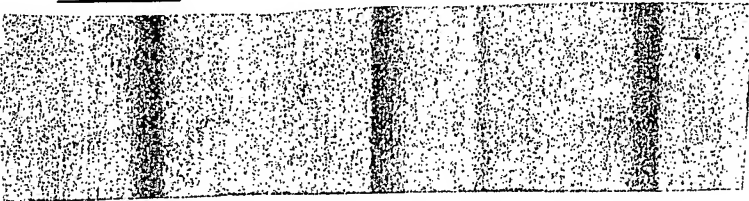
b. (U) NUDET Play

(1) (U) North American Air Defense Command (NORAD) will disseminate nuclear event information through the use of NORAD forward automated reporting system (NFARS) and the nuclear detonation information summary (NUDIS).

(2) (U) Unified and specified commands responsible for reporting to the Joint Chiefs of Staff will report in accordance with instructions governing Group 1 NUDET Reports (JCS Pub 6, Volume II). Group 1 NUDET voice reports will be confirmed by record communications and may be modified for exercise use due to the sensitivity of this information.

(3) (U) Exercise controllers will provide players with information which has been derived from NUDET Direct Effect Scripts based on the exercise nuclear laydown. RECA players will use this information to formulate assessments of resource damage and to comply with reporting requirements contained in JCS Pub 6, Volume II.

c. (U) CARDA Play



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(c) (U) Remarks, if any.

(4) (U) Deviations from the CARDA play procedures described in the preceding paragraphs must be approved by the Exercise Project Officer, Joint Exercise Division, Operations Directorate, OJCS.

d. (U) Fallout Play

(1) (U) Fallout Prediction. Wind data will be provided on a time-phased basis by exercise controllers for the use of player activities involved with fallout prediction. The Exercise Project Officer, OJCS, will provide exercise controllers with the appropriate wind data.

(2) (U) Radiation Casualties and Area Denial. Exercise controllers will provide players with information to support the determination of radiation casualties and to identify areas denied by radiation. This information will include current and accumulated radiation dose rates at selected military installations or facilities and percentages to be used in determining radiation casualties and fatalities. RECA players will use casualty and area denial information to formulate assessments and comply with pertinent reporting requirements.

4. (U) RECA Controllers

a. (U) General. The exercise RECA controllers are personnel appointed by their respective commands or units as part of the

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Exercise Control Group, and they are charged with establishing the environment resulting from the nuclear attack simulated for the exercise.

b. (U) Functions

(1) (U) Determine the effects of exercise NUDEts on installations and personnel located within the controllers' areas of responsibility. This function will be supported by the scripting process discussed in paragraph 5 below.

(2) (U) Determine the degree to which resources and capabilities of installations and units have been degraded as a result of NUDET effects and translate the situation formulated into appropriate exercise inputs (see subparagraphs 5a and 5b below).

(3) (U) Determine what information (input) should be automatically inserted into the exercise and what information should be withheld pending a specific request by a higher headquarters, staff member, or commander.

c. (U) Fallout Prediction. Wind data, provided by the Exercise Project Officer, OJCS, will be used by RECA controllers to support player activities involved in the process of fallout prediction (see subparagraph 3d above). Reposited wind data will be released to appropriate player personnel in accordance with a time-phased release schedule. For example:

SAMPLE FALLOUT WIND DATA RELEASE SCHEDULE

<u>DATA TO BE USED</u> <u>(OCT 68)</u>	<u>TIME OF RELEASE</u> <u>(JUN 86)</u>	<u>PERIOD OF VALIDITY</u> <u>(JUN 86)</u>
021200Z-022400Z	070900Z	071200Z-072400Z
030001Z-031200Z	072100Z	080001Z-081200Z
031200Z-032400Z	080900Z	081201Z-082400Z
040001Z-041200Z	082100Z	090001Z-091200Z
041200Z-042400Z	090900Z	091201Z-092400Z

d. (U) RECA Scripting

(1) (U) Purpose. RECA scripting is a procedure to be employed by RECA controllers in the process of creating an

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artificial nuclear environment for exercise players. RECA scripting procedures have been developed for computing NUDET effects from the exercise NUDET list. These procedures must be adhered to in order to provide realistic and standardized RECA information to player personnel.

(2) (U) Script Data. Data derived through RECA scripting procedures must be injected into exercise play on a time-phased basis in accordance with the exercise scenario. This data is not subject to question or dispute and represents a description of the players' environment.

(3) (U) Types of Scripts. There are two types of RECA scripts that will provide a basis for RECA player injects.

(a) (U) NUDET Direct Effects Scripts.

(b) (U) NUDET Fallout Radiation Scripts.

5. (U) RECA Scripting

a. (U) NUDET Direct Effects Scripts. NUDET direct effects scripts will be computer produced for many of the military installations and facilities playing in the exercise. Military installations and facilities not covered by a computer-produced script, but involved in exercise play, will be manually scripted by appropriate RECA controllers (see subparagraph 5a(3) below).

(1) (U) Computer-Produced Scripts. Computer-produced scripts will be disseminated to appropriate RECA controller personnel, for their respective areas, prior to the start of the exercise. These scripts provide a time-sequenced list of the level of damage sustained at given military installations and facilities due to the direct effects of particular NUDETS involved in exercise play. The level of damage attributable to each NUDET is expressed in terms of a nuclear damage (ND) number. Physical damage descriptions associated with the various ND numbers are contained in the Appendix. The RECA controller will be responsible for developing time-phased player injects based on the application of damage effects in the ND descriptions to the physical plant and personnel located at the installation scripted. It is important to note that ND numbers representing damage to each installation are computed for each NUDET as if it were the only NUDET affecting that

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installation. ND numbers do not reflect the cumulative damage resulting from any prior NUDETS. Controllers should compute cumulative damage at each installation by successively applying the damage figures found in the Appendix to the already damaged installation.

(2) (U) Computer Script Format. Figure 1 illustrates the format of the computer-produced scripts. The upper half of the figure pertains to blast damage and the lower half to fallout calculations. Discussion in this section is limited to the blast damage portion. Terms within parentheses are generic and would be replaced by actual data in the computer scripts distributed to controllers. Each installation is assigned to an entity called a Complex, which is simply a collection of installations located in the same geographical area. Each Complex has a unique name and damage scripts are ordered alphabetically by Complex name. As can be seen in Figure 1, the Complex name appears centered near the top of the page. Identification numbers and detonation times are listed for each NUDET causing damage to installations in the named Complex. (Time is a six-digit field consisting of the day, followed by hours and minutes.) Each installation in the Complex is listed next, and damage (expressed as an ND number) to the installation from each NUDET appears in the same column as NUDET number and time. Installation data listed include installation name, category code, and description. In this example the Complex contains three installations. Complex and installation names are generally similar, but not always. Therefore, controllers may have to scan the list of installation names in the index provided with the damage scripts in order to determine the name of the applicable Complex and locate it in the listing.

(3) (U) Manual Scripting

(a) (U) General. The following procedure will be used to manually script the NUDET direct effects on installations and personnel.

(b) (U) Procedure. The ND description number for a given installation is computed as follows:

1. (U) Step 1--Check the NUDET list for all NUDETS that are in the general proximity of the



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EXERCISE (EXERCISE NAME)

NUCLEAR DAMAGE SCRIPT FOR MINOR COMPLEX  
(COMPLEX NAME)  
NUCLEAR BLAST DAMAGE

DATE PRODUCED (DATE)

NUDET NUMBER  
TIME OF DETONATION

L0003  
(TIME)

L0012  
(TIME)

L0015  
(TIME)

INSTALLATION  
(INSTALLATION NAME)  
CAT CODE (CODE)  
(INSTALLATION DESCRIPTION)

NUCLEAR DAMAGE NUMBER  
ND02 ND15 ND05

INSTALLATION  
(INSTALLATION NAME)  
CAT CODE (CODE)  
(INSTALLATION DESCRIPTION)

NUCLEAR DAMAGE NUMBER  
ND02 ND16 ND06

INSTALLATION  
(INSTALLATION NAME)  
CAT CODE (CODE)  
INSTALLATION DESCRIPTION

NUCLEAR DAMAGE NUMBER  
ND02 ND16 ND04

FALLOUT  
ARRIVAL  
AT TIME

ATMOSPHERIC FALLOUT  
RADS/HR AT TIME

END  
CONTAMINATION  
DATE

17/2300 18/1100 18/2300 19/1100 19/2300 20/1100 20/2300 21/1100 20/1100

INSTALLATION  
(INSTALLATION NAME) (TIME)  
(INSTALLATION NAME) (TIME)  
(INSTALLATION NAME) (TIME)

22	15	9	5	2	0	0	0
19	12	8	4	2	1	0	0
19	12	8	4	2	1	0	0

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(CLASSIFICATION)  
Figure 1

PAGE(8)

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installation (100 miles or less). On a map, locate ground zero and determine the distance (in miles) between ground zero and the center of the installation (for each NUDET).

2. (U) Step 2--Use appropriate (air or surface) Charts in subparagraph 5a(3)(c) below. Apply mileage determined in Step 1 and yield of NUDET (from NUDET list) to determine the ND number.

3. (U) Step 3--Using the appropriate ND script in The Appendix, the RECA controller should compute the level of damage for all resources and facilities located on the installation. For those types of resources not listed in the ND script, the controller must infer an appropriate damage level from similar resources contained in the script.

4. (U) Example of RECA computation (for illustration only):

Factors

Installation: XYZ AFB  
Location: 40°N 96°W  
Weapon: Nuclear (NUDET List L0028)  
Size: Medium (5 MT)  
Ground Zero: 40°10'N 95°45'W  
Burst: air  
Time: 0001Z

Computations

Step 1

- NUDET list indicates NUDET L0028 as medium yield air burst at 0001Z.
- XYZ AFB is determined to be 15 miles distant; therefore, it is "affected."

Step 2

- Using the air burst matrix in subparagraph 5a(3)(c), the ND number is found at the intersection of the 5 MT column and the 15 NM row. In this example ND = 7.

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(Note: Controllers will have to interpolate/extrapolate for yields/distances not listed in tables.)

Step 3

- Chart for ND-07 in Appendix describes what has happened to XYZ AFB.

Step 4

- Inputs for exercise are derived from these descriptions and are inserted into exercise play.
  - By means determined to have survived.
  - According to established real-time formats and time schedules.
  - In language and completeness commensurate with the situation prevailing at the time.

(c) (U) Air and Surface Burst Charts

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1. (U) Air Burst

ND DESCRIPTION NUMBER  
AS A FUNCTION OF  
YIELD AND DISTANCE FROM GROUND ZERO

DISTANCE		YIELD MT					
NM.	.50	1.0	2.0	5.0	10.0	18.0	
1.1	16	16	16	16	16	16	
1.3	15	16	16	16	16	16	
1.5	14	16	16	16	16	16	
1.7	13	16	16	16	16	16	
2.0	12	16	16	16	16	16	
2.5	10	15	16	16	16	16	
3.0	09	14	15	16	16	16	
3.5	09	13	14	16	16	16	
4.0	07	12	13	15	16	16	
4.5	07	11	12	14	16	16	
5.0	05	11	12	14	15	16	
5.5	05	10	11	13	15	16	
6.5	03	09	10	12	14	15	
7.0	03	08	10	12	13	14	
8.0	03	07	09	11	13	14	
9.0	02	06	08	10	12	13	
10.0	02	06	07	10	11	12	
11.0	02	05	07	09	11	11	
12.0	01	05	06	08	10	11	
15.0	00	04	05	07	08	10	
17	00	03	04	06	08	09	
20	00	02	03	05	07	08	
23	00	02	03	04	06	07	
25	00	02	03	04	05	06	
30	00	01	02	03	04	05	
35	00	00	01	02	03	05	
40	00	00	00	02	03	04	
45	00	00	00	01	02	03	
50	00	00	00	01	02	03	
56	00	00	00	00	02	03	
63	00	00	00	00	01	02	
78	00	00	00	00	00	01	
90	00	00	00	00	00	00	

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2. (U) Surface Burst

ND DESCRIPTION NUMBER  
AS A FUNCTION OF  
YIELD AND DISTANCE FROM GROUND ZERO

DISTANCE NM.	YIELD MT					
	.50	1.0	2.0	5.0	10.0	18.0
1.1	16	16	16	16	16	16
1.3	15	16	16	16	16	16
1.4	14	16	16	16	16	16
1.7	13	15	16	16	16	16
1.9	12	14	15	16	16	16
2.2	11	13	15	16	16	16
2.4	10	12	14	16	16	16
2.8	10	11	13	15	16	16
3.2	09	10	12	14	16	16
3.6	09	09	11	13	15	16
4	07	09	10	12	14	16
4.4	07	08	10	12	13	15
5	05	08	09	11	12	14
5.5	05	07	08	10	12	13
6.0	03	06	08	10	11	13
6.5	03	05	07	09	10	12
7.3	03	04	06	09	10	11
8	03	03	05	08	09	11
9	02	03	04	07	09	10
10	02	03	03	06	08	09
11	02	02	03	05	07	09
12	01	02	03	04	06	08
13	00	02	03	04	05	08
14	00	02	02	03	05	07
16	00	01	02	03	04	06
17	00	00	02	03	03	05
19.5	00	00	01	02	03	04
22	00	00	00	02	03	03
28	00	00	00	01	02	03
30	00	00	00	00	02	02
34	00	00	00	00	01	02
43	00	00	00	00	00	01
48	00	00	00	00	00	00

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b. (U) NUDET Fallout Radiation Scripts

(1) (U) Radiation Casualties and Area Denial. Computer-produced Fallout Radiation Scripts will be provided in the same report and for the same installations/facilities scripted for direct effects. These scripts will be used to support the determination of fallout effects during the exercise. Fallout Radiation Scripts will provide a time-sequenced list of radiation (RAD) readings for all military installations or facilities scripted and affected by fallout. RECA controllers will use the information provided in NUDET Fallout Radiation Scripts to:

(a) (U) Provide players with periodic RAD readings, at appropriate installations, for the purpose of determining areas denied by radiation.

(b) (U) Compute radiation casualties for injection to player personnel at appropriate time intervals.

(2) (U) Fallout Casualty Computation. The following method will be used to compute casualties from radiation data provided in NUDET Fallout Radiation Scripts.

(a) (U) Before casualties can be calculated, a protection factor must be applied to the unshielded cumulative dose rate provided in the Fallout Radiation Script for a given installation. Exercise controllers may elect to compute individual protection factors for each function or a gross overall protection factor for all functions on an installation. For most applications, individual protection factors will not be necessary; however, if they are required, controllers should seek assistance from an NBC officer. Where gross calculation will suffice, the RECA controller may make a suitable estimate using the following guidelines:

<u>PROTECTION</u>	<u>FACTOR</u>
Open - no protection	1
Vehicles, Buildings, or Varied Protection	5
Foxholes, Armor	10
Fallout Shelters, Underground Installations	40

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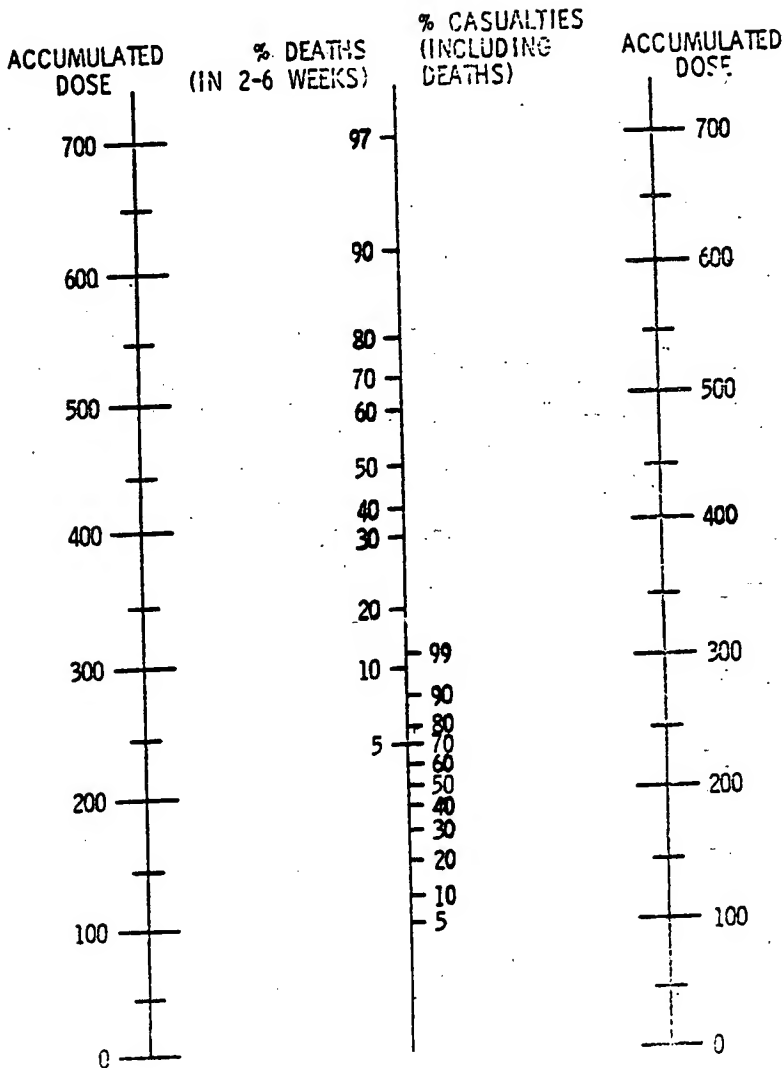
(b) (U) Compute the effective cumulative dose by dividing cumulative dose levels listed in the Fallout Radiation Scripts by the protection factor. Example: The average protection factor calculated for a unit is 10. Divide each calculated cumulative dose by 10 and the result is effective cumulative dose.

(c) (U) Calculation of casualties is carried out using the nomogram in subparagraph 5b(4).

(3) (U) NUDET Fallout Radiation Script Format. The lower half of Figure 1 illustrates the format of the Fallout Radiation Script. Cumulative RADS/HOUR at 12-hour intervals are provided for each installation in the Complex. RECA controllers should interpolate to compute doses for times that fall between the indicated intervals. Times and dose rates shown are illustrative only. They would be replaced by applicable values in the scripts distributed to controllers.

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(4) (U) EFFECTS OF ACCUMULATED DOSE  
(FOR EXERCISE PURPOSES ONLY)





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REFERENCES:

- a. JCS Pub 6, Volume II, Part 2, Chapter 1, 1 April 1980, "JRS, Unit Status and Identity Report (UNITREP)."
- b. Joint Operations Planning System, Volume IV (Crisis Action System), SM-502-85, 12 August 1985.
- c. JCS Pub 6, Volume II, Part 4, 2 November 1981, "JRS Nuclear Weapon Reports (NUREP)."
- d. JCS Pub 6, Volume II, Part 9, Chapter 1, 11 April 1983, "Joint Resource Assessment Data Base Report (JADREP)."
- e. AF CARDA OPLAN 2-84, March 1984, "CONUS Airborne Reconnaissance for Damage Assessment (CARDA)."
- f. Joint Strategic Capabilities Plan (JSCP), Annex H, current year, "Residual Capability Assessment."

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Appendix

A-1 to A-143